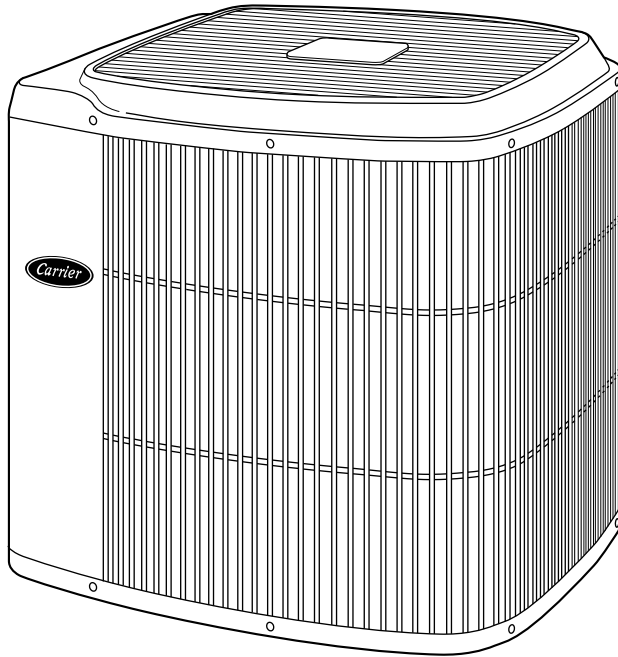


Preliminary Product Fact Sheet

Data for Preliminary Use Only



A92446



This product meets GREEN SEAL criteria for manufacturing, energy efficiency, sound levels and packaging. It contains no CFCs or HCFCs.



As an ENERGY STARSM Carrier Corporation has determined that this product meets the ENERGY STAR guidelines for energy efficiency.



APPROVALS
ISO 9001
EN 29001
BS 5750 PART 1
ANSI/ASQC Q91

CERTIFICATE NO. FM 28768

REGISTERED QUALITY SYSTEM

The model 38YXA Heat Pump uses the environmentally-safe refrigerant R-410A. The unit is available in nominal sizes 024 through 060. The unit features a copper tube, enhanced aluminum fin coil for a compact, low-profile appearance with vertical air discharge.

This unit also features Carrier's Silencer System which allows outstanding performance with reduced sound levels. The Silencer System consists of a compressor sound hood and vibration isolation plate to muffle compressor noise, a discharge muffler to minimize low frequency sound and pressure pulsation generated by compressor discharge gas, an energy-efficient fan and fan motor to move air more efficiently, and the InViroFlowTM design for an improved airflow pattern which requires less energy.

All units contain scroll compressors specially designed for use with R-410A.

FEATURES

- SEER up to 14.5 and HSPF up to 8.5 with specified Carrier equipment
- Silencer System
- Environmentally-safe refrigerant R-410A
- High-pressure switch
- Low-pressure switch
- PressureGuardTM heating vapor pressure switch
- R-410A liquid-line filter drier
- Compressor sound hood and vibration isolation plate
- Patent-pending accumulator
- Discharge muffler
- Cycle protector
- Crankcase heater on 048 and 060 sizes
- Copper tube aluminum fin coil
- External brass back seating service valves with sweat connections
- AccuRater[®] piston
- Condenser coil grille
- Electric lug nut

LIMITED WARRANTY

- 1-year parts only warranty on all parts
- Additional 9-year warranty on compressor, no labor

38YXA	024	3	0	1
Deluxe 13 SEER Split-System Heat Pump with R-410A				
Nominal Capacity		Electrical		Packaging
024—24,000 Btuh	042—42,000 Btuh	3—208/230-1		
030—30,000 Btuh	048—48,000 Btuh			
036—36,000 Btuh	060—60,000 Btuh			

Physical Data

UNIT SIZE-SERIES	024-30	030-30	036-30	042-30	048-30	060-31
OPERATING WEIGHT (Lb)	201	194	207	208	253	282
COMPRESSOR						
Manufacturer	Copeland					
Type	Scroll					
REFRIGERANT						
Control	R-410A					
Charge (Lb) @ 15 Ft	TXV (Cooling)					
	7.18	6.63	8.87	8.63	13.25	13.25
CONDENSER FAN						
Air Discharge	Propeller Type, Direct Drive					
Air Quantity (CFM)	Vertical					
Motor HP	2400	2800	2800	2800	3300	3300
Motor RPM	1/8	1/5	1/5	1/5	1/4	1/4
	825	825	825	825	1100	1100
CONDENSER COIL						
Face Area (Sq Ft)	Copper Tube, Aluminum Plate Fin					
Fins per In.	18.18	15.15	12.12	12.12	18.18	18.18
Rows	25	25	20	20	20	20
Circuits	1	1	2	2	2	2
	2	3	3	3	4	5
VALVE CONNECTION (In. ID)						
Vapor	Sweat					
Liquid	5/8	3/4	3/4	7/8	7/8	7/8
	3/8					
REFRIGERANT TUBES* (In. OD)						
Vapor (0–50 Ft Tube Length)	5/8	3/4	3/4	7/8	7/8	1-1/8
Vapor (Alternate)	3/4 ACR	7/8	7/8	7/8	7/8	7/8
Vapor (RST Not Permitted)	3/4	1-1/8	1-1/8	3/4 and 1-1/8	3/4 and 1-1/8	3/4
Liquid (All Applications)	3/8					

* Tube diameters are for lengths up to 50 ft. For tubing lengths greater than 50 ft, consult the Application Guideline and Service Manual for Residential Split-System Air Conditioners and Heat Pumps Using R-410A Refrigerant.

Metering Device

UNIT SIZE-SERIES	OUTDOOR PISTON	INDOOR TXV*	REQUIRED SUBCOOLING (°F)
024-30	46	KSATX0201HSZ	11
030-30	52	KSATX0201HSZ	9
036-30	57	KSATX0301HSZ	9
042-30	59	KSATX0301HSZ	11
048-30	61	KSATX0401HSZ	10
060-31	73	KSATX0501HSZ	12

* TXV must be installed when indoor coil is not equipped with an R-410A approved TXV. TXV listed is for any approved coil combination. All TXVs are R-410A specific bi-flow hard shutoff.

Accessories

ORDERING NO.	DESCRIPTION
KAATD0101TDR	Time-Delay Relay—All Sizes
KSALA0301410	Low-Ambient Pressure Switch—All Sizes
KAAFT0101AAA	Evaporator Freeze Thermostat—All Sizes
KHAIR0101AAA	Isolation Relay—All Sizes
KSAHS1501AAA	Start Assist—Capacitor and Relay—Sizes 024–042
KSAHS1601AAA	Start Assist—Capacitor and Relay—Size 048, 060
KAACS0201PTC	Start Assist—PTC—All Sizes
KAACH1201AAA	Crankcase Heater—Sizes 024–042
Standard	Crankcase Heater—Sizes 048, 060
KHAOT0301FST	Outdoor Thermostat—All Sizes
KHAOT0201SEC	Secondary Outdoor Thermostat—All Sizes
KHASA0101AAA	Service Alarm—All Sizes
KHAIC0101AAA	Interface Control (Optimizer II®)—All Sizes
KSATX0201HSZ	Bi-Flow TXV (Hard Shutoff)—Sizes 024, 030
KSATX0301HSZ	Bi-Flow TXV (Hard Shutoff)—Sizes 036, 042
KSATX0401HSZ	Bi-Flow TXV (Hard Shutoff)—Size 048
KSATX0501HSZ	Bi-Flow TXV (Hard Shutoff)—Size 060
KH45LG140 (RCD)	Bi-Flow Filter Drier (Suction Line)—Sizes 024–036
KH45LG141 (RCD)	Bi-Flow Filter Drier (Suction Line)—Sizes 042–060
KHALS0401LLS	Liquid-Line Solenoid Valve—All Sizes
KSASF0101AAA	Support Feet—4 In. (4)—All Sizes
KHASS0206MPK	Snow Stand—18 In.—All Sizes

THERMOSTAT/SUBBASE PKG	DESCRIPTION
TSTATCCNHP01-A	Thermostat—Auto Changeover, Non-Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool
TSTATCCPHP01-A	Thermostat—Auto Changeover, 7-Day Programmable, °F/°C, 2-Stage Heat, 1-Stage Cool
TSTATCCPDF01-A	Thermostat—Auto Changeover, 7-Day Programmable, °F/°C, Dual Fuel Must be used with Outdoor Air Temperature Sensor (TSTATXXSEN01)
TSTATCCPRH01-A	Thermostat™ Control—Programmable Thermostat with Humidity Control
--HH--07AT-215	Thermostat—Manual Changeover, Non-Programmable, °F, 2-Stage Heat, 1-Stage Cool
TSTATXXSEN01	Outdoor Air Temperature Sensor
TSTATXXNBP01	Backplate for Non-Programmable Thermostat
TSTATXXBP01	Backplate for Programmable Thermostat
TSTATXXCNV10	Thermostat Conversion Kit (4 to 5 Wire)—10 Pack

Accessory Usage Guideline

ACCESSORY	REQUIRED FOR LOW-AMBIENT APPLICATIONS (BELOW 55°F)	REQUIRED FOR LONG-LINE APPLICATIONS* (OVER 50 FT)
Crankcase Heater	Yes	Yes
Evaporator Freeze Thermostat	Yes	No
Compressor Start Assist—Capacitor and Relay	Yes	Yes
R-410A Low-Ambient Pressure Switch	Yes	No
Wind Baffle	See Low-Ambient Pressure Switch Instructions	No
Support Feet	Recommended	No
R-410A Hard Shutoff TXV	Yes†	Yes†
R-410A Liquid-Line Solenoid Valve for Heating	No	See Long-Line Application Guideline

* For tubing line sets between 50 and 175 ft, refer to the Application Guideline and Service Manual for Residential Split-System Air Conditioners and Heat Pumps using R-410A Refrigerant.

† Required for all applications.

Electrical Data

UNIT SIZE-SERIES	V/PH	OPER VOLTS*		COMPRESSOR		FAN FLA	MCA	60°C MIN WIRE SIZE†	75°C MIN WIRE SIZE†	60°C MAX LENGTH (FT)‡	75°C MAX LENGTH (FT)‡	MAX FUSE** OR CKT BKR AMPS
		Max	Min	LRA	RLA							
024-30	208/230/1	253	187	61.0	15.1	0.8	19.7	14	14	39	37	30
030-30				72.5	14.7	1.1	19.5	14	14	39	37	30
036-30				83.0	15.4	1.1	20.4	12	12	60	57	30
042-30				104.0	21.1	1.1	27.5	10	10	71	68	40
048-30				109.0	20.5	1.4	27.0	10	10	74	70	40
060-31				158.0	27.6	1.4	35.9	8	8	86	82	60

* Permissible limits of the voltage range at which unit will operate satisfactorily. Operation outside these limits may result in unit failure.

† If other than uncoated (non-plated), 60° or 75°C (140° or 167°F) insulation, copper wire (solid wire for 10 AWG and smaller, stranded wire for larger than 10 AWG) is used, consult applicable tables of the NEC (ANSI/NFPA 70).

If wire is applied at ambient greater than 30°C (86°F), consult Table 310-16 of the NEC (ANSI/NFPA 70). The ampacity of nonmetallic-sheathed cable (NM), trade name ROMEX, shall be that of 60°C (140°F) conductors, per the NEC (ANSI/NFPA 70) Article 336-30.

‡ Length shown is as measured 1 way along the wire path between the unit and the service panel for a voltage drop not to exceed 2 percent.

** Time-delay fuse.

FLA—Full Load Amps

LRA—Locked Rotor Amps

MCA—Minimum Circuit Amp

RLA—Rated Load Amps

NOTE: 1. Control circuit is 24v on all units and requires external power source.

2. Copper wire must be used from service disconnect to unit.

3. All motors/compressors contain internal overload protection.

Tested Combination Ratings*

UNIT SIZE-SERIES	INDOOR UNIT	ARI STANDARD RATINGS†										
		Cooling						Heating				
		TC	SEER				EER	High-Temp		Low-Temp		HSPF
			Factory-Supplied Enhancement	Standard Rating	Carrier Gas Furnace or Accessory TDR‡	Accessory TXV**		TC	COP	TC	COP	
024-30	FX4ANF030	25,000	TDR & TXV	13.00	—	—	11.50	25,000	3.30	16,600	2.30	8.00
030-30	FX4ANF030	29,000	TDR & TXV	13.00	—	—	11.40	30,000	3.50	18,500	2.34	8.00
036-30	FX4ANF042	35,000	TDR & TXV	13.00	—	—	11.30	35,000	3.35	21,600	2.34	7.70
042-30	FV4ANF003	40,500	TDR & TXV	13.10	—	—	11.30	40,500	3.35	25,400	2.45	7.70
048-30	FV4ANF005	45,500	TDR & TXV	13.50	—	—	12.00	47,500	3.50	28,300	2.50	8.50
060-31	FV4ANB006	58,500	TDR & TXV	13.20	—	—	11.00	60,000	3.50	37,000	2.53	8.00

* Outdoor section/indoor section combination tested in accordance with DOE test procedure for heat pumps.

† Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:

Cooling Standard: 80°F (27°C) db 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.

High-Temp Heating Standard: 70°F (21°C) db indoor entering air temperature and 47°F (8°C) db 43°F (6°C) wb air entering outdoor unit.

Low-Temp Heating Standard: 70°F (21°C) db indoor entering air temperature and 17°F (-9°C) db 15°F (-10°C) wb air entering outdoor unit.

‡ In most cases, only 1 method should be used to achieve TDR function. Using more than 1 method in a system may cause degradation in performance. Use either the accessory Time-Delay Relay KAATD0101TDR or a furnace equipped with TDR. All Carrier furnaces are equipped with TDR except for the 58GFA.

** Based on computer simulation. TXV must be R-410A compatible and hard shutoff type.

COP—Coefficient of Performance

EER—Energy Efficiency Ratio

HSPF—Heating Seasonal Performance Factor

SEER—Seasonal Energy Efficiency Ratio

TC—Total Capacity (Btuh)


TDR—Time-Delay Relay

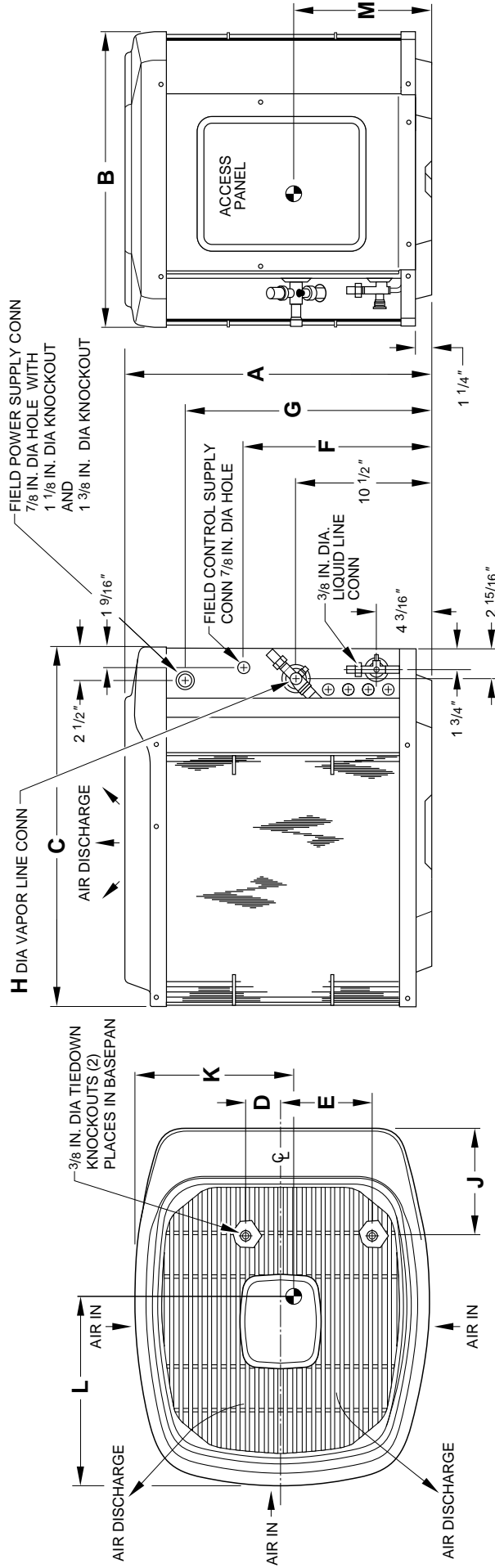
TXV—Thermostatic Expansion Valve

Sound Rating (dBA)

UNIT SIZE-SERIES	SOUND RATING
024-30	70
030-30	72
036-30	74
042-30	73
048-30	76
060-31	76

NOTES:

1. Allow 30 in. clearance to service side of unit, 48 in. above unit, 6 in. on one side, 12 in. on remaining side, and 24 in. between units for proper airflow.
2. Minimum outdoor operating ambient in cooling mode is 55°F (unless low ambient control is used) max 125°F.
3. Maximum outdoor operating ambient in heating mode is 66°F.
4. Series designation is the 13th position of the unit model number.
5. Center of gravity .



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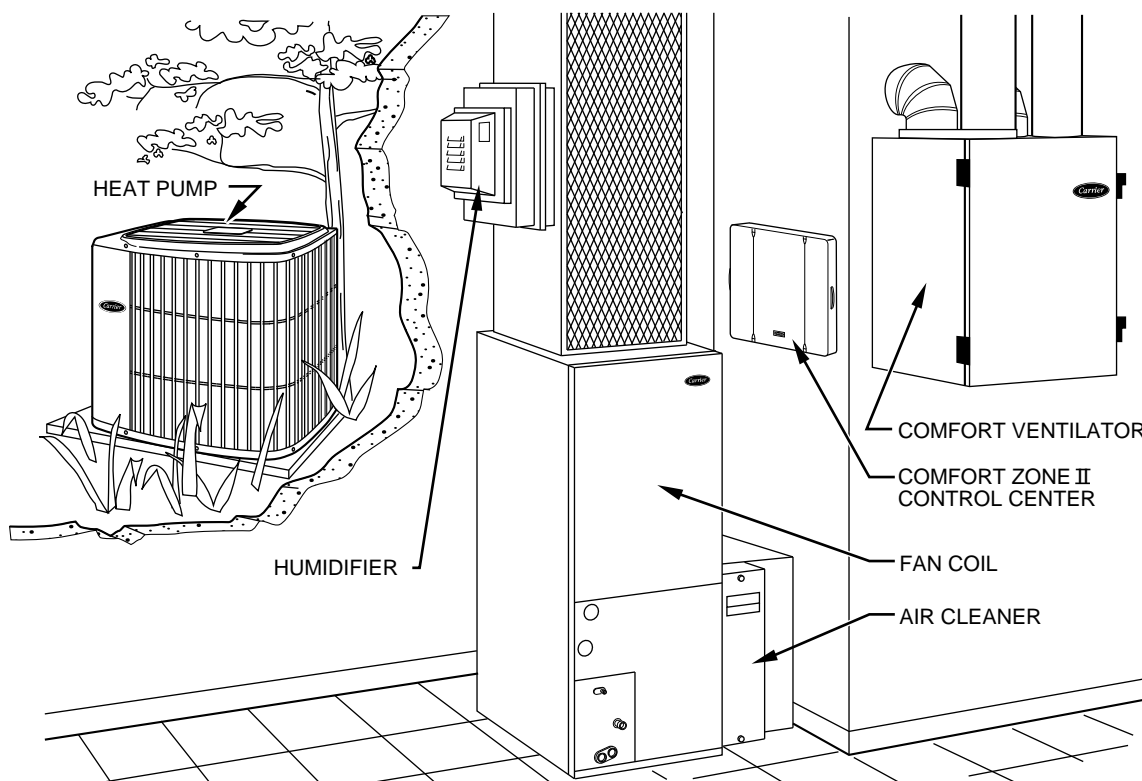
Dimensions (In.)

UNIT SIZE	SERIES	UNIT DIMENSIONS												MINIMUM MOUNTING PAD DIMENSIONS	
		A	B	C	D	E	F	G	H	J	K	L	M	Support Feet	Snow Stand
024	30	39-13/16	30	34-15/16	4	9-3/4	27-1/2	33-7/8	5/8	8-3/16	15-7/8	14-3/8	14-1/4	26 X 32	31 X 35
030	30	33-13/16	30	34-15/16	4	9-3/4	21-1/2	27-7/8	3/4	8-3/16	14	13-1/8	13-3/4	26 X 32	31 X 35
036	30	27-13/16	30	34-15/16	4	9-3/4	15-1/2	21-7/8	3/4	8-3/16	16-1/8	14-1/8	13-1/4	26 X 32	31 X 35
042	30	27-13/16	30	34-15/16	4	9-3/4	15-1/2	21-7/8	7/8	8-3/16	16-1/4	14	13-1/8	26 X 32	31 X 35
048	30	39-13/16	30	34-15/16	4	9-3/4	27-1/2	33-7/8	7/8	8-3/16	16-1/4	14-1/4	14-1/2	26 X 32	31 X 35
060	31	39-13/16	30	34-15/16	4	9-3/4	27-1/2	33-7/8	7/8	8-3/16	16	13-3/4	13-3/4	26 X 32	31 X 35

R-410A—QUICK REFERENCE GUIDE

- R-410A refrigerant operates at 50-70 percent higher pressures than R-22. Be sure that servicing equipment and replacement components are designed to operate with R-410A.
- R-410A refrigerant cylinders are rose colored.
- R-410A refrigerant cylinders have a dip tube which allows liquid to flow out of cylinder in upright position.
- Recovery cylinder service pressure rating must be 400 psig, DOT 4BA400 or DOT BW400.
- R-410A systems should be charged with liquid refrigerant. Use a commercial type metering device in the manifold hose.
- Manifold sets should be 800 psig high side and 250 psig low side with 550 psig low-side retard.
- Use hoses with 800 psig service pressure rating.
- Leak detectors should be designed to detect HFC refrigerant.
- R-410A, as with other HFCs, is only compatible with POE oils.
- Vacuum pumps will not remove moisture from oil.
- Do not use liquid-line filter driers with rated working pressures less than 600 psig.
- Do not install a suction-line filter drier in liquid line.
- POE oils absorb moisture rapidly. Do not expose oil to atmosphere.
- POE oils may cause damage to certain plastics and roofing materials.
- Wrap all filter driers and service valves with wet cloth when brazing.
- A liquid-line filter drier is required on every unit.
- Do not use an R-22 TXV.
- If indoor unit is equipped with an R-22 TXV, it must be changed to an R-410A TXV.
- Never open system to atmosphere while it is under a vacuum.
- When system must be opened for service, break vacuum with dry nitrogen prior to opening to atmosphere.
- Always replace filter drier after opening system for service.
- Do not vent R-410A into the atmosphere.
- Do not use capillary tube coils.
- Observe all **warnings**, **cautions**, and **bold** text.

MATCHED SYSTEM



A97114

SYSTEM DESIGN SUMMARY

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wc.
2. Minimum outdoor operating air temperature for cooling mode without low-ambient operation accessory is 55°F (12.8°C).
3. Maximum outdoor operating air temperature for cooling mode is 125°F (51.7°C)
4. Minimum outdoor operating air temperature for heating mode is -30°F (-34.4°C).
5. Maximum outdoor operating air temperature for heating mode is 66°F (18.9°C).
6. For reliable operation, unit should be level in all horizontal planes.
7. Maximum elevation of indoor coil above or below base of outdoor unit is: indoor coil above = 30 ft; indoor coil below = 30 ft. (See items 8 and 9 following.)
8. For interconnecting tubing lengths greater than 50 ft, consult the Residential Split-System Application Guideline and Service Manual for Air Conditioners and Heat Pumps using R-410A Refrigerant.
9. If ANY refrigerant tubing is buried, provide a minimum 6-in. vertical rise to the valve connections at the unit. Refrigerant tubing lengths up to 36 in. may be buried without further considerations. Buried refrigerant tubing lengths greater than 36 in. are not recommended.
10. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
11. Mixmatches of indoor coil capacity of more than 1 size larger than outdoor unit capacity (unless so specified) may result in inadequate indoor comfort.
12. Do not apply capillary tube indoor coils to these units.
13. Factory-supplied filter drier must be installed.

SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

A large selection of product, theory, and skills programs is available, using popular video-based formats and materials. All include video and/or slides, plus companion book.

Classroom Service Training plus "hands-on" the products in our labs can mean increased confidence that really pays dividends in faster troubleshooting, fewer callbacks. Course descriptions and schedules are in our catalog.

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